

1 **WHAT IS CLAIMED IS:**

2 1. A method for making controlled-release ammonium phosphate  
3 fertilizer comprising following acts:

4 adding release-controlling materials into ammonium phosphate  
5 slurry;

6 mixing evenly the ammonium phosphate slurry and the release-  
7 controlling materials into a mixture;

8 condensing the mixture of the ammonium phosphate slurry and the  
9 release-controlling materials until a water-content rate of the mixture reaches

10 25~35% (w/w, based on a dry weight of the ammonium phosphate slurry);

11 and

12 granulating the condensed mixture of the ammonium phosphate  
13 slurry and the release-controlling materials to obtain granular controlled-  
14 release ammonium phosphate fertilizer.

15 2. The method as claimed in claim 1, wherein sulfuric acid is further  
16 added to the mixture of the ammonium phosphate and the release-controlling  
17 material to acidify the mixture before condensing;

18 wherein the sulfuric acid is 1~20% (w/w, based on the dry weight of  
19 the ammonium phosphate slurry).

20 3. The method as claimed in claim 1, wherein the release-controlling  
21 material is selected from at least one of the group comprising: zeolite,  
22 montmorillonite, pillared montmorillonite, and lignin comprising alkali  
23 lignin and lignosulfonate or lignosulphonate.

24 4. The method as claimed in claim 2, wherein the release-controlling

material is selected from at least one of the group comprising: acidified zeolite, acidified montmorillonite, acidified pillared montmorillonite, and acidified lignin comprising acidified alkali lignin and acidified lignosulfonate or lignosulphonate.

5. The method as claimed in claim 3, wherein the release-controlling material is 3~35%(w/w, based on the dry weight of the ammonium phosphate slurry).

6. The method as claimed in claim 4, wherein the release-controlling material is 3~35%(w/w, based on the dry weight of the ammonium phosphate slurry).

7. The method as claimed in claim 1, wherein the granulating methods are selected from the following methods comprising: slurry granulating, spray granulating, and fluidization granulating.

8. The method as claimed in claim 5, wherein the granulating methods are selected from following methods comprising: slurry granulating, spray granulating, and fluidization granulating.

9. The method as claimed in claim 6, wherein the granulating methods are selected from following methods comprising: slurry granulating, spray granulating, and fluidization granulating.

10. A method for making controlled-release ammonium phosphate fertilizer comprising following acts:

adding release-controlling material and water into ammonium phosphate powder;

mixing evenly the ammonium phosphate powder, the release-

1 controlling material and water into a mixture;

2 grinding the mixture;

3 activating the components in the mixture by piling;

4 drying the activated mixture to achieve the controlled-release  
5 ammonium phosphate fertilizer.

6 11. The method as claimed in claim 10, wherein sulfuric acid is  
7 further added into the mixture of the ammonium phosphate and the release-  
8 controlling material to acidify the mixture before grinding act;

9 wherein the sulfuric acid is 1~20% (w/w, based on a weight of the  
10 ammonium phosphate powder).

11 12. The method as claimed in claim 10, wherein the release-  
12 controlling material is selected from at least one of the group comprising:  
13 zeolite, montmorillonite, pillared montmorillonite, and lignin comprising  
14 alkali lignin and lignosulfonate or lignosulphonate

15 13. The method as claimed in claim 10, wherein the release-  
16 controlling material is selected from at least one of the group comprising:  
17 acidified zeolite, acidified montmorillonite, acidified pillared  
18 montmorillonite, and acidified lignin comprising acidified alkali lignin and  
19 acidified lignosulfonate or lignosulphonate .

20 14. The method as claimed in claim 12, wherein the release-  
21 controlling materials are in proportion of 3~35% (w/w, based on a weight of  
22 the ammonium phosphate powder) and the water is in proportion of 3~40%  
23 (w/w, based on the weight of the ammonium phosphate powder).

24 15. The method as claimed in claim 13, wherein the release-

- 1 controlling materials are in proportion of 3~35% (w/w, based on a weight of
- 2 the ammonium phosphate powder) and the water is in proportion of 3~40%
- 3 (w/w, based on the weight of the ammonium phosphate powder).